

## BASIC INFORMATION

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**Title of Invention:** FLOOR COVERING, CONSISTING OF HARD FLOOR PANELS  
AND METHOD FOR MANUFACTURING SUCH FLOOR PANELS

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Floor covering, consisting of hard floor panels and method for manufacturing such floor panels.

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- 5 This invention relates to a floor covering, consisting of hard floor panels, as well as to a method for manufacturing such floor panels.

10 In first instances, the invention is intended for so-called laminated floors, but generally it can also be applied for other kinds of floor covering, consisting of hard floor panels, such as veneer parquet, prefabricated parquet, or other floor panels which can be compared to laminated floor.

- 15 It is known that such floor panels can be applied in various ways.

20 According to a first possibility, the floor panels are attached at the underlying floor, either by glueing or by nailing them on. This technique has as a disadvantage that it is rather complicated and that subsequent changes can only be made by breaking out the floor panels.

25 According to a second possibility, the floor panels are installed loosely onto the underground, whereby the floor panels mutually match into each other by means of a tongue and groove coupling, whereby mostly they are glued together in the tongue and groove, too. The floor  
30 obtained in this manner, also called a floating parquet flooring, has as an advantage that it is easy to install and that the complete floor surface can move which often is convenient in order to receive possible expansion and shrinkage phenomena.

- 35 A disadvantage with a floor covering of the above-

mentioned type, above all, if the floor panels are installed loosely onto the underground, consists in that during the expansion of the floor and its subsequent shrinkage, the floor panels themselves can drift apart, as a result of which undesired joints can be formed, for example, if the glue connection breaks.

In order to remedy this disadvantage, techniques have already been thought of whereby connection elements made of metal are provided between the single floor panels in order to keep them together. Such connection elements, however, are rather expensive in manufacturing them and, furthermore, their provision or the installation thereof is a time-consuming occupation.

Examples of embodiments which apply such metal connection elements are described, among others, in the documents WO 94/26999 and WO 93/11280.

Furthermore, couplings are known which allow to snap floor parts into each other, a.o. from the documents WO 94/1628, WO 96/27719 and WO 96/27721. The snapping-together effect obtained with these forms of embodiment, however, does not guarantee a 100-percent optimum counteraction against the development of gaps between the floor panels, more particularly, because in fact well-defined plays have to be provided in order to be sure that the snapping-together is possible.

From GB 424.057, a coupling for parquetry parts is known which, in consideration of the nature of the coupling, only is appropriate for massive wooden parquetry.

Furthermore, there are also couplings for panels known from the documents GB 2.117.813, GB 2.256.023 and DE 3.544.845. These couplings, however, are not appropriate

for connecting floor panels.

The invention aims at an improved floor covering of the  
aforementioned type, the floor panels of which can be  
5 coupled to each other in an optimum manner and/or the  
floor panels of which can be manufactured in a smooth  
manner, and whereby preferably one or more of the  
aforementioned disadvantages are excluded.

10 The invention also aims at a floor covering which shows  
the advantage that no mistakes during installing, such as  
gaps and such, can be created.

Furthermore, the invention also aims at a floor covering  
15 whereby the subsequent development of gaps is excluded or  
at least counteracted in an optimum manner, whereby also  
the possibility of the penetration of dirt and humidity  
is minimized.

20 To this aim, the invention relates to a floor covering,  
consisting of hard floor panels which, at least at the  
edges of two opposite sides, are provided with coupling  
parts, cooperating with each other, substantially in the  
form of a tongue and a groove, characterized in that the  
25 coupling parts are provided with integrated mechanical  
locking means which prevent the drifting apart of two  
coupled floor panels into a direction perpendicular to  
the related edges and parallel to the underside of the  
coupled floor panels. Hereby, these coupling parts are  
30 optimized in such a manner that they allow that any  
form of play is counteracted and preferably is excluded.

By integrated mechanical locking means is understood that  
these form a fixed part of the floor panels, either by  
35 being connected in a fixed manner to the floor panels, or  
by being forced in one place herewith.